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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/830,323	04/24/2001	Fatima Emitsel Yakubu-Madus	X-11921	6749

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EXAMINER	
JIANG, DONG	
ART UNIT	PAPER NUMBER
1646	

DATE MAILED: 01/17/2003 14

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/830,323	Applicant(s) YAKUBU-MADUS ET AL.	
	Examiner Dong Jiang	Art Unit 1646	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *28 October 2002* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *23-56* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *23-56* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☒ Claim(s) *23-56* are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) *11 & 13* .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other:

DETAILED OFFICE ACTION

Applicant's amendment in paper No. 12, filed on 28 October 2002 is acknowledged and entered. Following the amendment, claims 1-22 are canceled, and the new claims 23-56 are added.

Applicant's species election of pioglitazone in Paper No. 12 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

Currently, claims 23-56 are pending, and claims 23, 24, and 26-56 are under consideration. Claim 25 is withdrawn from further consideration as being drawn to a non-elected invention.

The numbering of claims is not in accordance with 37 CFR 1.126 which requires the original numbering of the claims to be preserved throughout the prosecution. When claims are canceled, the remaining claims must not be renumbered. When new claims are presented, they must be numbered consecutively beginning with the number next following the highest numbered claims previously presented (whether entered or not).

Misnumbered claims 23 (the second 23) to 55 have been renumbered 24-56.

Objections and Rejections under 35 U.S.C. 112:

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 29, 34, 39, 44, 49 and 54 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 29 is indefinite because it is unclear what is "position 8" as there is no sequence specified. The metes and bounds of the claim cannot be unambiguously determined.

The remaining claims are rejected for depending from an indefinite claim.

Rejections Over Prior Art:

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 C.F.R. 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(f) or (g) prior art under 35 U.S.C. 103(a).

Claims 23-55 are rejected under 35 U.S.C. 103(a) as being unpatentable over Buckley et al., US 5,545,618, and Ikeda et al., EP 0 861 666 A2.

Buckley discloses effective analogs of the active GLP-1 peptides, and a method for treating type II diabetes using the analogs (the abstract), and that said analogs strongly stimulate the release of insulin from pancreas (column 1, lines 48-49). Buckley's GLP-1 peptides meet the limitations of "a GLP-1 peptide agonist", "a GLP-1 molecule", "an analog of SEQ ID NO:1", and "a GLP-1 derivative" in the present claims 23 and 26-27, respectively. Additionally, Buckley teaches (column 3, lines 25-26, and Figure 1) that the amino acid at position 8 of the peptide can be a glycine (as claim 29). Further, Buckley teaches a typical dosage range, which is about 1pg/kg to 1 mg/kg body weight, and indicates that the dosage range is approximation depending upon a large number of factors, and that optimization protocols is similar to that for insulin, which is well established (colum 14, lines 21-28). Buckley does not teach a method of treating diabetes by co-administering a GLP-1 agonist and pioglitazone.

Ikeda discloses that single use of each individual [antidiabetic] drug can not bring sufficient effects in some [diabetic] disease stages and there are various problems such as side

effect which is caused by an increased dose or a long-term administration (page 2, lines 30-32). Further, Ikeda teaches a method for treating diabetes using an insulin sensitivity enhancer such as pioglitazone, in combination with other antidiabetics differing from said enhancer in the mechanism of action (page 2, lines 39-40). Furthermore, Ikeda teaches that the dosage of the pharmaceutical composition may be appropriately determined with reference to the dosages recommended for the respective active components and can be selected appropriately according to the recipient, and that the dosage of the insulin sensitivity enhancer can be selected from the clinical oral dose range of 0.01 to 10 mg/kg body weight, and the preferred frequency of administration is 1-3 times a day (page 11, the first paragraph).

It would have been prima facie obvious to one of ordinary skill in the art to combine the teachings of the references and to combine GLP-1 and pioglitazone for the treatment of diabetes because each of the two drugs are well known for its clinical application in treating diabetes, and as taught by Ikeda that it is beneficial for treating diabetes to combine pioglitazone with other antidiabetics differing from said enhancer in the mechanism of action, and GLP-1 acts by stimulating insulin release, which differs from the action of pioglitazone. The instant situation is amenable to the type of analysis set forth in *In re Kerkhoven*, 205 USPQ 1069 (CCPA 1980) wherein the court held that it is prima facie obvious to combine two compositions each of which is taught by the prior art to be useful for the same purpose in order to for a third composition that is to be used for the very same purpose since the idea of combining them flows logically from their having been individually taught in the prior art. Applying the same logic to the instant method claims, given the teaching of the prior art of methods using GLP-1 or pioglitazone for treating diabetes, it would have been obvious to combine the two drugs for the treatment because the idea of doing so would have logically followed from their having been individually taught in the prior art to be useful for the same purpose of treating diabetes. Thus, claims that require no more than adding together of two conventional antidiabetics set forth prima facie obvious subject matter. The person of ordinary skill in the art would have been motivated to do so because of the potential improved therapy for diabetes as suggested by Ikeda, and reasonably would have expected success because both drugs had been demonstrated in the prior art to be effective antidiabetics.

With respect to the claim limitation of drug dosages, the dosage ranges in both references encompass the dosages in the present claims. Further, even if the references did not teach the dosage range, as suggested by both reference, determination of an appropriate dosage of the drug is well within the purview of a person of ordinary skill in the art.

Claim 56 is rejected under 35 U.S.C. 103(a) as being unpatentable over Buckley et al., US 5,545,618, and Ikeda et al., EP 0 861 666 A2, as applied to claims 23-55 above, and further in view of Jensen et al., WO 96/20005.

The teachings of Buckley and Ikeda are reviewed above. Neither reference teaches a controlled release preparation of GLP-1.

Jensen discloses a composition containing GLP-1 compounds having protracted action (page 1, the first paragraph), and indicates that GLP-1 compounds have a too fast action when administered to human subjects, and that controlling the duration of action of GLP-1 compounds and the prolonged delivery thereof will spare the diabetics the chore and discomfort of multiple daily injections.

It would have been obvious to the person of ordinary skill in the art at the time the invention was made to use controlled release preparation of GLP-1 for the reasons taught by Jensen. The person of ordinary skill in the art would have been motivated to make that modification(s) for the better treatment of diabetes, and reasonably would have expected success because Jensen has demonstrated such a preparation with a protracted release of the active GLP-1 compound, and having a sufficient high stability.

Conclusion:

No claim is allowed.

Advisory Information:

Any inquiry concerning this communication should be directed to Dong Jiang whose telephone number is 703-305-1345. The examiner can normally be reached on Monday - Friday from 9:00 AM to 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Yvonne Eyler, can be reached on (703) 308-6564. The fax phone number for the organization where this application or proceeding is assigned is 703-308-0294.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0196.

Lorraine Spector

LORRAINE SPECTOR
PRIMARY EXAMINER

Dong Jiang, Ph.D.
Patent Examiner
AU1646
1/7/03